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## THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: application of ) Examiner: Jennifer A. Leung  
WEN-CHING YANG et al. ) Art Unit: 1764  
Serial No. 09/507,605 ) Entitled:  
Filing Date: February 21, 2000 ) IMPROVED FLUIDIZED BED  
REACTOR DESIGN  
Atty Docket RDM 98-002

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June 19, 2003

Eckert Seamans Cherin & Mellott  
600 Grant Street - 44<sup>th</sup> Floor  
Pittsburgh, PA 15219Commissioner for Patents  
MAIL STOP NON-FEE AMENDMENT  
P.O. Box 1450  
Alexandria, VA 22313-1450AMENDMENT AND RESPONSEIntroduction

Responsive to Applicants' communication filed on January 27, 2003, the Examiner issued a non-final Office Action on April 8, 2003 rejecting Claims 1-10 and 12-20 on the formal grounds under 35 U.S.C. § 112. The claims have been amended to address most of the Section 112 objections, in each case to provide further clarification to what had previously been implicit. The objections will be addressed individually under the subheading "REMARKS" set forth hereafter. In Section 4 of the Office Action, Claims 1, 2 and 13-15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Chen et al. (US 3,981,690). In Section 5 of the Office Action, Claims 1-3, 7-9, 14-15 and 18 are rejected under 35 U.S.C. § 102(b) as being anticipated by Uemura et al. (US 4,308,806). In Section 6 of the Office Action, Claims 1-3 and 18 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nishi et al. (JP 57-070189). In Section 7 of the Office Action, Claims 4-6 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishi et al. in view of Bogner et al. (EP 0150091). In Section 8 of the Office Action, Claims 7, 9 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishi et al. in view of Miller, Jr. et al. (US 3,772,999). In Section 9 of the Office Action, Claims 8 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishi et al. in view



of Miller, Jr., et al. as applied to Claim 7 above, and further in view of Worley et al. (US 4,198,210). In Section 10 of the Office Action, Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishi et al. as applied to Claim 1, and further in view of Haldipur (US 4,569,681). In Section 11 of the Office Action, Claims 13-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishi et al. as applied to Claim 1 and further in view of Chen et al. In Section 12 of the Office Action, Claim 19 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishi et al. as applied to Claim 1 and further in view of Worley et al.

The following amendments to the claims now more specifically describe a fluidized bed chlorinator that addresses a much different environment and different reactants than are addressed by the prior art. Unlike the prior art, the reactants within a chlorinator are extremely caustic, sticky and tend much more readily to agglomerate. Applicants have found that the ratio of the volume of gas emitted from the different set of orifices and the relative pressure drops are critical in this application to maintain good mixing and effective separation. These same parameters are not as critical to the prior art as the Examiner appears to recognize, because all the cited art address applications that are different from Applicants'. These distinguishing features as well as others presented by Applicants' amended claims will be pointed out specifically hereafter under the following section "REMARKS" in which each of the Examiner's rejections will be addressed.

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